(19) World Intellectual Property **Organization**

International Bureau



(43) International Publication Date 13 January 2005 (13.01.2005)

PCT

(10) International Publication Number WO 2005/004218 A1

(51) International Patent Classification7: H01L 21/304, B24B 37/04

(21) International Application Number:

PCT/JP2004/009681

(22) International Filing Date: 1 July 2004 (01.07.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2003-190300 2004-166202

2 July 2003 (02.07.2003) JР 3 June 2004 (03.06.2004) ЛР

(71) Applicant (for all designated States except US): EBARA

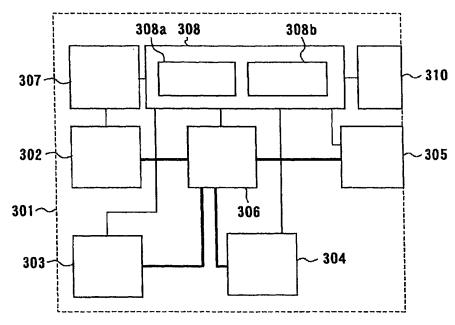
- CORPORATION [JP/JP]: 11-1, Haneda Asahi-cho. Ohta-ku, Tokyo 1448510 (JP).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): SASAKI, Tatsuya [JP/JP]; c/o Ebara Corporation, 11-1, Haneda Asahi-cho,

Ohta-ku, Tokyo 1448510 (JP). YAMADA, Naoshi [JP/JP]; c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo 1448510 (JP). KATSUMATA, Yoshifumi [JP/JP]; c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo 1448510 (JP). SHIMIZU, Noburu [JP/JP]; c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo 1448510 (JP). TSUNO, Seiryo [JP/JP]; c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo 1448510 (JP). MITSUYA, Takashi [JP/JP]; c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo 1448510 (JP).

- (74) Agents: WATANABE, Isamu et al.; Gowa Nishi-shinjuku 4f, 5-8, Nishi-shinjuku 7-chome, Shinjuku-ku, Tokyo 1600023 (JP).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,

[Continued on next page]

(54) Title: POLISHING APPARATUS AND POLISHING METHOD



(57) Abstract: A polishing apparatus has a polishing section (302) configured to polish a substrate and a measurement section (307) configured to measure a thickness of a film formed on the substrate. The polishing apparatus also has an interface (310) configured to input a desired thickness of a film formed on a substrate to be polished and a storage device (308a) configured to store polishing rate data on at least one past substrate therein. The polishing apparatus includes an arithmetic unit (308b) operable to calculate a polishing rate and an optimal polishing time based on the polishing rate data and the desired thickness by using a weighted average method which weights the polishing rate data on a lately polished substrate.



- PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

with international search report